JACOBS ENGINEERING GROUP INC.

8208 MELROSE DRIVE, SUITE 210, LENEXA, KANSAS 66214
TELEPHONE (913) 492-9218 • FAX (913) 492-6198

March 15, 1995

Ms. Anne Olberding
Site Assessment Manager
U.S. Environmental Protection Agency
Region VII, Superfund Division
726 Minnesota Avenue
Kansas City, Kansas 66101

Re: **EPA Contract No. 68-W8-0122**
Expanded Site Inspection
Site Reconnaissance Trip Memorandum
Hubert Wheeler State School Site
St Louis, Missouri
CERCLIS No. MO0000093666
EPA Work Assignment No. 53-7JZZ
Jacobs Project No. 12-D253-80

Dear Ms. Olberding:

On March 7, 1995, Catherine Howey of Jacobs Engineering Group Inc. (Jacobs) and Murali Kasi of TapanAm Associates, Inc. (TapanAm) conducted a site reconnaissance at the Hubert Wheeler State School site (the site) in St. Louis, Missouri (Figure 1). The purpose of this trip was to document current site features and to identify the approximate locations of previous sampling events conducted by Geotechnology, Inc. (Geotechnology) and the Missouri Department of Natural Resources (MDNR). Per EPA's direction, due to the amount and quality of data available, Jacobs does not plan to collect samples from the site under the Expanded Site Inspection (ESI). The site reconnaissance was conducted in conjunction with the Cooksey's Junkyard (CERCLIS No. MOD980686018) sampling trip in Villa Ridge, Missouri. Jacobs and TapanAm representatives also visited the MDNR Hazardous Waste Program and Environmental Services Program Divisions in Jefferson City to review the state files for the Hubert Wheeler State School site and the Newton County Wells site.

Ron Redden, the state contact for the site from MDNR, was scheduled to accompany Jacobs personnel during the site reconnaissance. However, Mr. Redden informed Jacobs prior to the site reconnaissance that he would not be present at the site due to adverse weather conditions (predicted snow and freezing rain). Mr. Redden asked to be informed of any future trips to the site.

Jacobs and TapanAm personnel arrived on-site at 8:45 a.m. and met with Kevin Hultberg, the maintenance engineer for the Hubert Wheeler State School and other state facilities. Mr. Hultberg toured the site with Jacobs, unlocking the school doors and the fence which encloses the former playground (Figure 2). The majority of the fenced area is covered with asphalt; the remaining area is covered with grass. A tar-like substance, which has seeped through cracks in the southwest portion of the asphalt every year since the opening of the school, was clearly visible. At the time of the reconnaissance, the tar-like substance was hard and submerged under a puddle of water. Numerous cracks were noted throughout the asphalt playground. Several boring locations from Geotechnology's previous investigation conducted in 1993 were also identified. A partially filled, sealed drum was present on the asphalt playground. Mr. Hultberg said it belonged to Geotechnology; however, the contents of the drum are unknown.

Due to significant precipitation on the morning of the site reconnaissance and the previous evening, standing water was noted to the south of the asphalt playground, in a large ditch at the northeastern corner of the site, and on the western edge of the site. Drainage pathways were identified to the north and east of the site. The site property is not fenced except on the eastern side, which borders several residences.

Mr. Hultberg informed Jacobs that the school was unoccupied and is presently being utilized as a storage facility for school supplies. The six staff members who had remained at the school after the students and teachers had been transferred to other schools in August 1994 had since been relocated to Westport. Mr. Hultberg said he periodically visited the school for supplies and to check for signs of burglary.

Mr. Hultberg informed Jacobs that Geotechnology, the contractor hired by the Missouri Department of Elementary and Secondary Education (DESE), had been scheduled to come to the site the same morning as the site reconnaissance. Geotechnology had planned to begin gridding out most of the site property for a Phase III sampling event. Due to adverse weather conditions, Geotechnology had rescheduled for the next day.

The site is located in a mixed commercial and residential area. The site is bordered on the north by Interstate 44, to the west by a branch of the Deaconess Hospital, to the east by approximately eight residences, and to the south by J&J Distributors (a vending equipment and electronic games store) and several residences. Wilson Avenue, which borders the south side of the site, is commercial to the west of the site and residential to the east of the site.

Following the site reconnaissance, the objectives of the ESI remain as outlined in the Site-Specific Implementation Plan (SSIP), dated February 1995. Due to the amount and quality of data available for the site, ESI sampling for the Hubert Wheeler State School site is not planned at this time. This decision may be modified depending on the Phase III investigation planned by Geotechnology.

Please contact either of the undersigned or Leslie Scally at (913) 492-9218 if you have questions or comments.

Sincerely,

Catherine Howey
ARCS Site Manager

Fred D. Reynolds, P.E.
ARCS Program Manager

Attachments: Figures
Response Checklist

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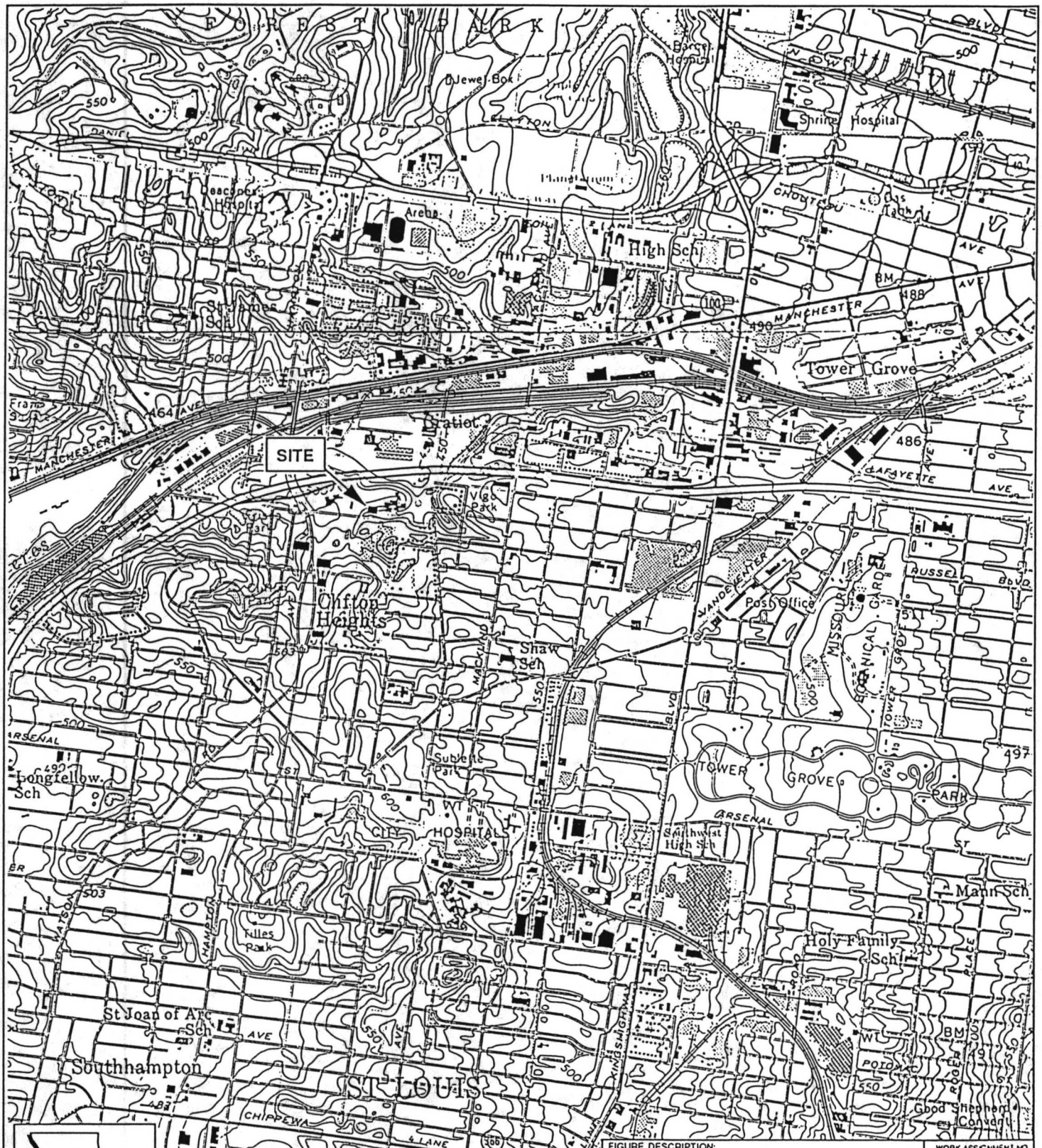
March 15, 1995



Source: U.S.G.S. Topographic Map, Webster Groves Quadrangle

FIGURE DESCRIPTION: SITE LOCATION MAP	WORK ASSIGNMENT NO 53-7JZZ
SITE NAME/LOCATION HUBERT WHEELER STATE SCHOOL ST. LOUIS, MISSOURI	JACOBS PROJECT NO 12-D253-80
JE JACOBS ENGINEERING GROUP INC.	ARCS
DRAWN BY: MD DATE: 02/16/95	FIGURE NO. 1
CHECKED BY: CH DATE: 02/16/95	

D253-80-001

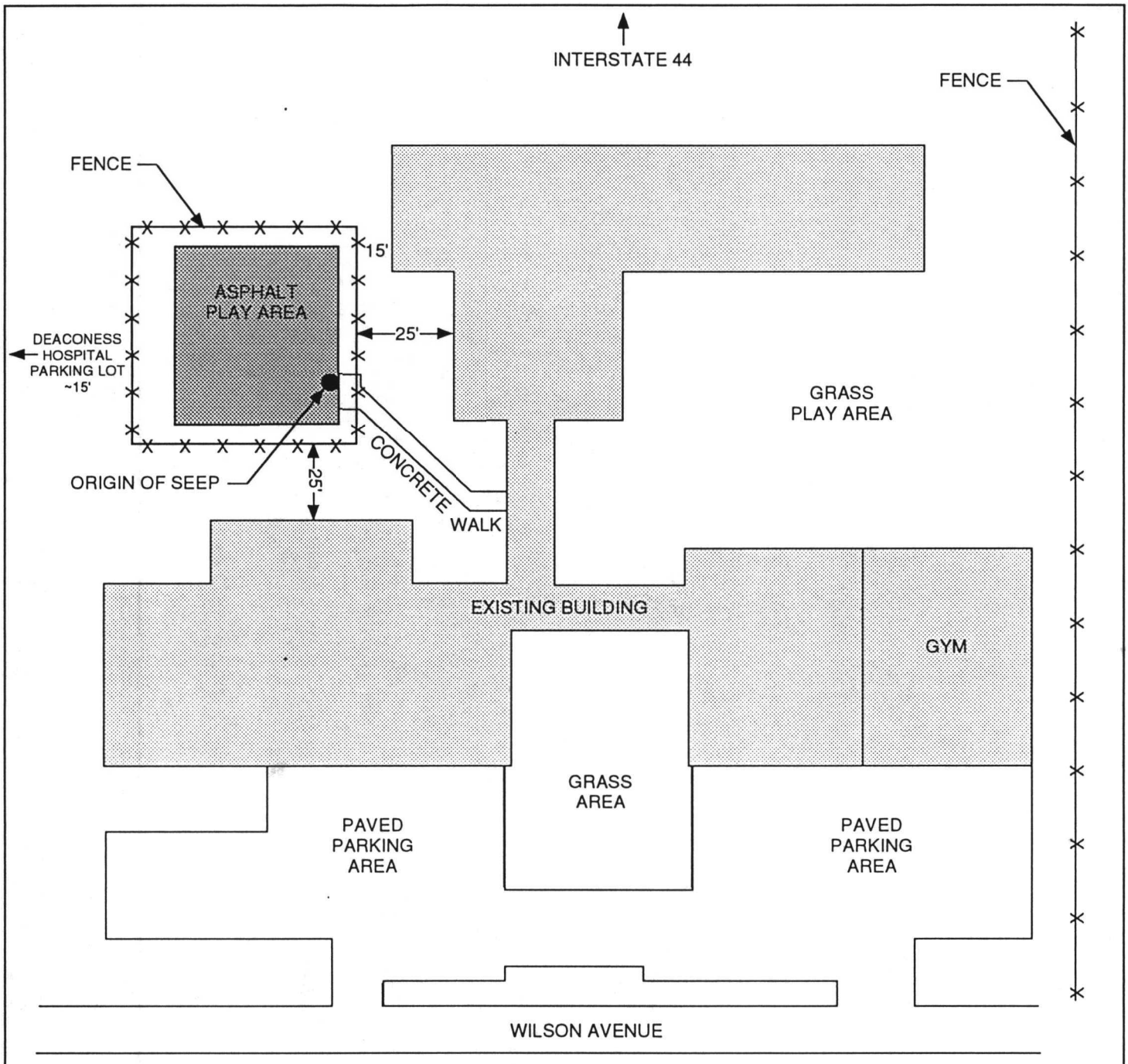


FIGURE DESCRIPTION: SITE MAP	WORK ASSIGNMENT NO. 53-7JZZ
SITE NAME/LOCATION HUBERT WHEELER STATE SCHOOL ST. LOUIS, MISSOURI	JACOBS PROJECT NO. 12-D253-80
JACOBS ENGINEERING GROUP INC.	ARCS
DRAWN BY: MD DATE: 03/15/95	FIGURE NO. 2
CHECKED BY: CH DATE: 03/15/95	

NOT TO SCALE

Source: MDNR, Site Inspection Report, 1994

D253-80-002

JE *Jacobs Engineering Group Inc.*
Kansas City Operations

Response Checklist

Site Name:	Hubert Wheeler State School	**Phone:**	314-645-4712	**Status:**	☐ Active ☒ Inactive
Address:	5707 Wilson Avenue, St Louis, Missouri 63110				
Property Owner:	Department of Elementary + Secondary Educ.	**Phone:**	314-751-4427		
Owner Address:	205 Jefferson St, Jefferson City, MO 65102				
Operator Name:	Dwayne Cassey	**Phone:**	314-751-4427		
Operator Address:	205 Jefferson St., Jefferson City, MO 65102				
Site Latitude & Longitude:	38°35'26.76" N lat, 90°17'51.48" W	**Site Setting:**	☒ Urban ☐ Rural		
Township Range & Section:	T. 45N, R. 7E, Sect. 19	**Site Access Restricted:**	☐ Yes ☒ No		
CERCLIS Number	MO0000093666	The asphalt playground is fenced including the area of ooze, but other areas of detection of contam. are not fenced			

1. Is the site in close proximity to any of the following?		☒	Major Thoroughfares
☒	Residential Area	☐	Drinking Water Supply Wells
☒	School/~~Daycare Facility~~ - it is a school	☐	Surface Water Drinking Supplies
☐	Surface Water Bodies	☐	Sensitive Environments (e.g. wetlands)
☐	Endangered Species	☐	State/National Parks/Forests/Monuments etc.
☐	Gas Station	☐	Above or Below Ground Tanks
☐	Manufacturing Plant	☐	Dump
☐	Grain Elevator	☒	Landfill - the site used to be a landfill according to older residents
☐	Other		

Comments: (If possible include specific names and indicate proximity to site) 7+7 Distributors (vending equipment + electronic games store) is directly south. A branch of Deaconess Hospital is to the west

2. Potential types of contamination identified during site reconnaissance:

☒	Surface Soil (estimate volume)	☐	Air
☐	Subsurface Soil (estimate volume)	☐	Surface Water
☐	Groundwater	☐	Unknown

Comments: previous investigations indicated subsurface + surface soil contamination. The extent of contamination has not been identified.

3. Were any areas of obvious contamination observed during the site reconnaissance? ☒ Yes ☐ No

the ooze was identified

4. Do you suspect buried wastes? ☒ Yes ☐ No

Comments: coal tar material was seen 4' below the surface; magnetometer surveys indicated several potential anomalies

5. Are any wastes potentially in contact with groundwater? ☒ Yes ☐ No

6. What is the depth to groundwater? ~ 50ft

Response Checklist
(Continued)

7. Current onsite operations: (Include specific name and worker population) inactive. The school is used as a storage facility of school supplies, such as paper products

8. Past onsite operations: (If possible, include specific name and worker population) state school for developmentally disabled - 110 students + 54 faculty; previously a landfill, warehouse, + mine for coal tar or clay

9. Are there any drinking water supply wells onsite? ☐ *Yes* ☒ *No* Are these wells contaminated? ☐ *Yes* ☐ *No* ☐ *Unknown*

10. Potential onsite sources identified during site reconnaissance:

	Sources	*Estimated Volume/Area*	*Suspected Waste*
☐	Drums		
☐	Tanks		
☐	Surface Impoundments		
☐	Landfill		
☐	Pile		
☒	Contaminated Soil	more than 7359 sq. ft. (fenced playground area)	PAHs in tarlike substance
☐	Spill		
☒	Buried Waste	unknown	unknown
☐	Wastestream		
☐	Other		

11. Is a release of contaminants from onsite sources suspected: ☒ *Yes* ☐ *No*

Media suspected to be contaminated:

	Media	*Suspected Contaminant*
☒	Soil	benzo(a)pyrene and other PAHs
☐	Groundwater	
☐	Surface Water	
☐	Air	

12. Any analytical data available? ☒ *Yes* ☐ *No*

Attach all data to this questionnaire. data w/ appropriate figures are attached

Health Threats

13. What types of exposure are potentially occurring? ☐ *Inhalation* ☒ *Ingestion* ☒ *Skin Contact*

14. Are there any reports of the following from potential receptors? ☐ *Illness* ☐ *Injury* ☐ *Skin Rashes* ☐ *Death*

Explain:

15. Are people living or working in areas of suspected contamination? ☐ *Yes* ☒ *No*

Comments: the school was temporarily closed after the lab results from soil samples came back

Response Checklist
(Continued)

16. What potential exposure pathways are associated with the site?

☐ Drinking Water ☐ Contaminated Agricultural Crops ☒ Contaminated Soils
☐ Surface Water ☒ Skin Contact

Comments: teachers recall students putting rocks in their mouths + having to scrape the ooze off of student's wheelchairs

Environmental Threats

17. Are there any reports of injuries to natural resources flora or fauna on, or in the vicinity of the site? ☐ *Yes* ☒ *No*

18. Are there any preferential offsite flow pathways? ☒ *Yes* ☐ *No*

19. Is the site located within a floodplain? ☐ *Yes* ☒ *No* ☐ *Unknown* 10 yr. 100 yr. 500 yr.

20. Does any offsite drainage pathway flow into a surface water body? River des Peres ☒ *Yes* ☐ *No*

21. Is the previously identified surface water body used for recreational uses? ☒ *Fishing* ☐ *Recreational* ☐ *Unknown*

River des Peres is classified as a resource for livestock watering and fishing. It is approximately 3/4s of a mile from the site.

22. Were any of the following seen on, or in the vicinity of the site during the reconnaissance?

☐ Endangered/Threatened Species ☐ Discolored Surface Water Bodies
☐ Stressed vegetation ☐ Discolored Soil
☐ Wetlands

Comments: ooze (tar-like), which had oozed in between cracks of the asphalt playground, was identified

23. Were wildlife absent from the site or surrounding area? ☐ *Yes* ☒ *No*

24. Is there additional information available which documents a threat to the environment? ☒ *Yes* ☐ *No*

If so, explain. - MDNR completed a PA and SI in 1994
- Geotechnology, Inc., a private contractor hired by DESE, has completed two investigations of the site

25. What are the potential short and long-term effects?

short-term: dermatitis or bronchitis
long-term: cancer

Superfund Removal Assessment Request

SITE NAME & LOCATION

Site Name: Hubert Wheeler State School **Phone:** 314-645-4712 **Status:** ☐ Active ☒ Inactive

Address Or Other Location Identifier: 5707 Wilson Avenue

City: St. Louis **State:** Missouri **Zip:** 63110

Directions To Site: I-44 East to Hampton Avenue exit. Travel South on Hampton Ave. Turn east on Wilson Avenue. The site is located on the north side of the street.

Map Attached? ☒ Yes ☐ No

CONTACTS

Requested By: Anne Olberding **Date Of Request:**

Agency/Office: EPA Region VII - Superfund Division

Mailing Address: 726 Minnesota Avenue

City: Kansas City **State:** KS

Telephone: (913) 551-7718 **Fax:** (913) 551-7063 **Zip:** 66101

REMOVAL SITE EVALUATION CRITERIA [40 CFR 300.410 (E)]

Is There A Release As Defined By The NCP? ☒ Yes ☐ No

Explain: A release to the environment is occurring via the oozing tar-like substance in the soil and leaking up through cracks in the asphalt

(A RELEASE is defined as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment of barrels, containers, and other closed receptacles containing any hazardous substances or pollutant or contaminant), but excludes: workplace exposures; engine exhaust emissions; nuclear releases otherwise regulated; and the normal application of fertilizer. For purposes of the NCP, release also means threat of release.

Is The Source A Facility Or Vessel As Defined By The NCP? ☒ Yes ☐ No

Explain: The source is a facility since it is an area where a hazardous substance can be located (specifically benzo(a)pyrene and other PAHs)

(A FACILITY is defined as any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or POTW), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container , motor vehicle, rolling stock, or aircraft or any size area, where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer use or any vessel. A VESSEL is defined as any description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water other than a public vessel.

Superfund Removal Assessment Request

SITE NAME & LOCATION

Does The Release Involve A Hazardous Substance, Or Pollutant, Or Contaminant As Defined By The NCP? ☒ Yes ☐ No

Explain: benzo(a)pyrene and other PAHs have been identified in the surface soil, subsurface soil, and in the ooze itself.

(A HAZARDOUS SUBSTANCE means any substance element, compound, mixture, solution, hazardous waste, toxic pollutant, hazardous air pollutant, hazardous air pollutant, or imminently hazardous chemical substance or mixture designated pursuant to the CWA, CERECLA, SDWA, CAA OR TSCA. The term does not include petroleum products, natural gas, or natural gas liquids, liquefied natural gas, synthetic gas of mixtures of natural and synthetic gas. The definition of pollutant or contaminant includes, but is not limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release in to the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion from food chains, will or may be reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions or physical deformations, in such organisms or their offspring. The term does not include petroleum products, natural gas, natural gas liquids, liquefied natural gas, synthetic gas of mixtures of natural and synthetic gas.)

Is The Release Subject To The Limitations On Response? ☒ Yes ☐ No

Explain: The ooze is not in a natural form. It does not originate from a building structure

(The LIMITATIONS on response provisions of the NCP (40 CFR 300.400(B) states that removals shall not be undertaken in response to a release: of a naturally occurring substance in its unaltered or natural form; from products that are a part of the structure of, and result in exposure within, residential buildings or business or community structures; or into public or private drinking water supplies due to deterioration of the system through ordinary use.)

Does The Quantity Or Concentration Warrant Response? ☒ Yes ☐ No

Explain: Detected concentrations of benzo(a)pyrene have been identified in the soil & ooze which is above the Cancer Risk Screening Concentration found in the Superfund Chemical Data Matrix 1994.

Has The PRP Been Identified? ☒ Yes ☐ No

Explain: PRPs include: LaClede's Former Manufactured Gas Plant in Shrewsbury, Carondelet Coke Company, & the former coke and foundry supply storage areas & the former landfilling operations.

CONDITIONS TO WARRANT REMOVAL [40 CFR 300.415(B)(2)]:

Actual Or Potential Exposure To Hazardous Substances, Or Pollutants, Or Contaminates? ☒ Yes ☐ No

Explain: Exposure via skin contact or ingestion of the contaminated surface soils. Teachers report students putting rocks in their mouths.

Actual Or Potential Contamination Of Drinking Water Supplies? ☐ Yes ☒ No

Explain: No nearby residential wells are believed to be utilized. City gets its water upgradient of the site from the Mississippi River

Hazardous Substances, Pollutants, Or Contaminants In Drums, Drums, Or Bulk Storage Containers? ☒ Yes? ☐ No

Explain: One drum was located on-site. It was being used by Geotechnology. The contents were unknown

High Levels Of Hazardous Substances, Pollutants, Or Contaminants In Near-surface Soils? ☒ Yes ☐ No

Explain: Benzo(a)pyrene was detected above the Cancer Risk Screening Concentration of 0.08 ppm in several surface soil samples collected by Geotechnology, Inc. in 1994 and MDNR in 1994.

Conditions Susceptible To Impact From Adverse Weather Conditions? ☐ Yes ☒ No

Explain: Site is not within a floodplain

Threat Of Fire Or Explosion? ☐ Yes ☒ No

Explain: PAHs in soil do not pose a major threat of fire or explosion

Potential For Other Federal Or State Response Mechanisms? ☒ Yes ☐ No

Explain: The Department of Elementary + Secondary Education has hired their own contractor to conduct some investigations.

Other Situations Or Factors Which Pose A Threat? ☐ Yes ☒ No

Explain:

REMOVAL ACTIONS WHICH MAY BE APPROPRIATE [40 CFR 300.415(D)]:

Site Security? ☐ Yes ☐ No

Explain:

Drainage Control? ☐ Yes ☐ No

Explain:

Stabilization Or Removal Of Surface Impoundments? ☐ Yes ☐ No

Explain:

Capping Of Contaminated Soil? ☐ Yes ☐ No

Explain:

Use Of Chemicals To Control/Retard Spread Of Contamination? ☐ Yes ☐ No

Explain:

Contaminated Soil Excavation? ☐ Yes ☐ No

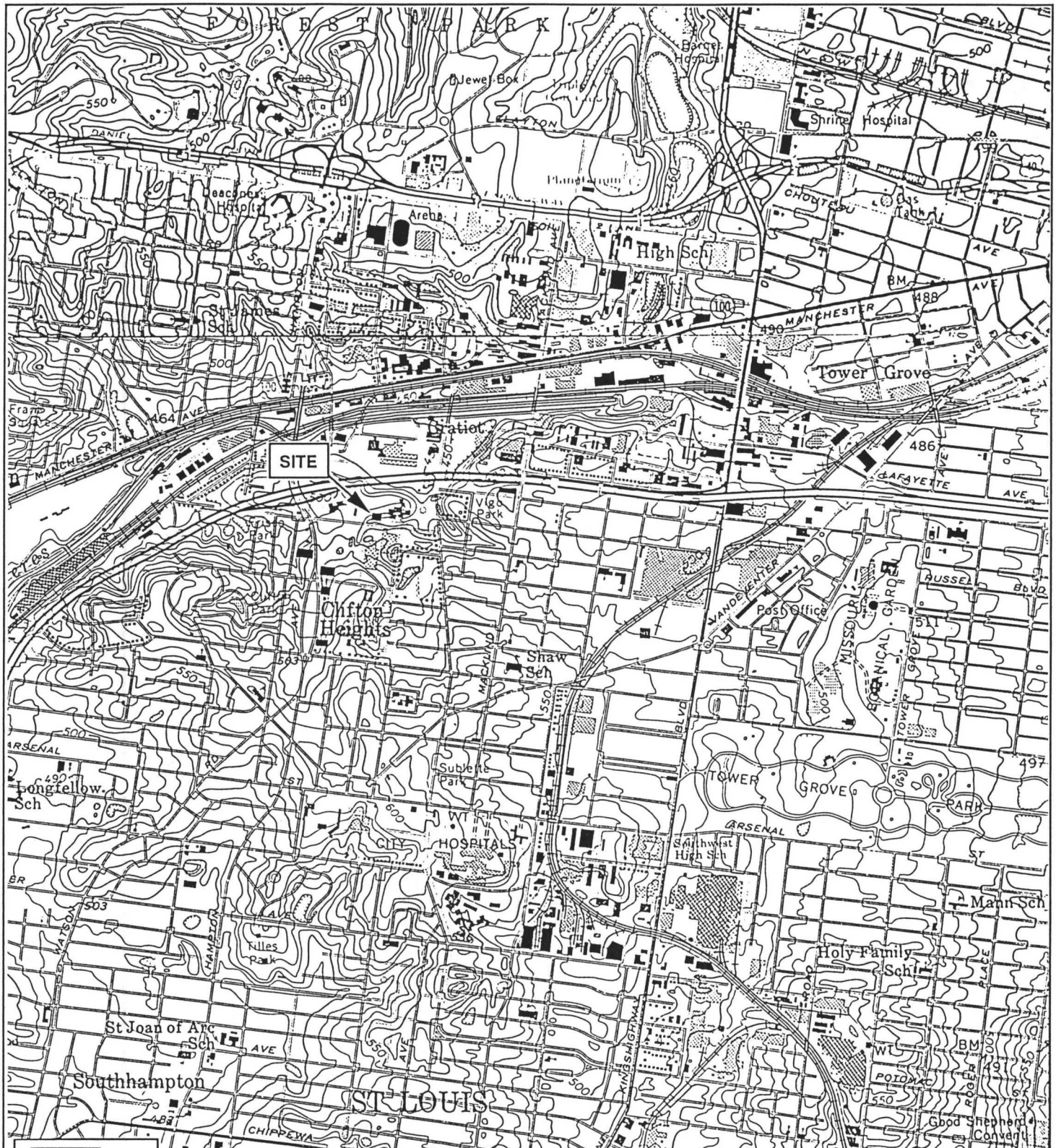
Explain:

Removal Of Drums, Tanks, Or Bulk Storage Containers? ☐ Yes ☐ No

Explain:

Containment, Treatment, Or Disposal Of Hazardous Substances, Pollutants, Or Containments? ☐ Yes ☐ No

Explain:



Source: U.S.G.S. Topographic Map, Webster Groves Quadrangle

0 .5 1

Approximate Scale in Miles

FIGURE DESCRIPTION: SITE LOCATION MAP	WORK ASSIGNMENT NO 53-7JZZ
SITE NAME/LOCATION HUBERT WHEELER STATE SCHOOL ST. LOUIS, MISSOURI	JACOBS PROJECT NO 12-D253-80
JACOBS ENGINEERING GROUP INC.	ARCS
DRAWN BY: MD DATE: 02/16/95	FIGURE NO. 1
CHECKED BY: CH DATE: 02/16/95	

D253-80-001

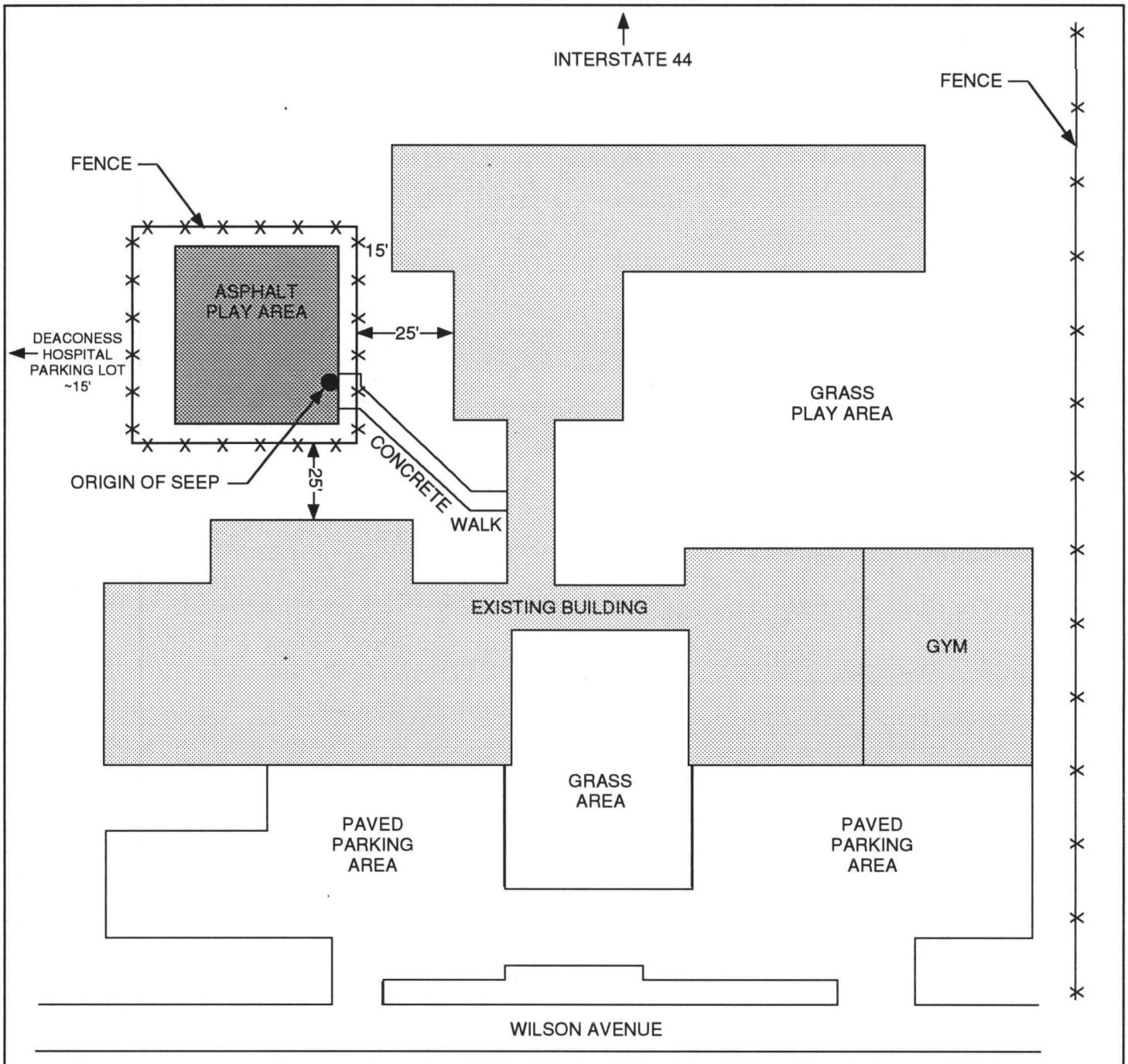
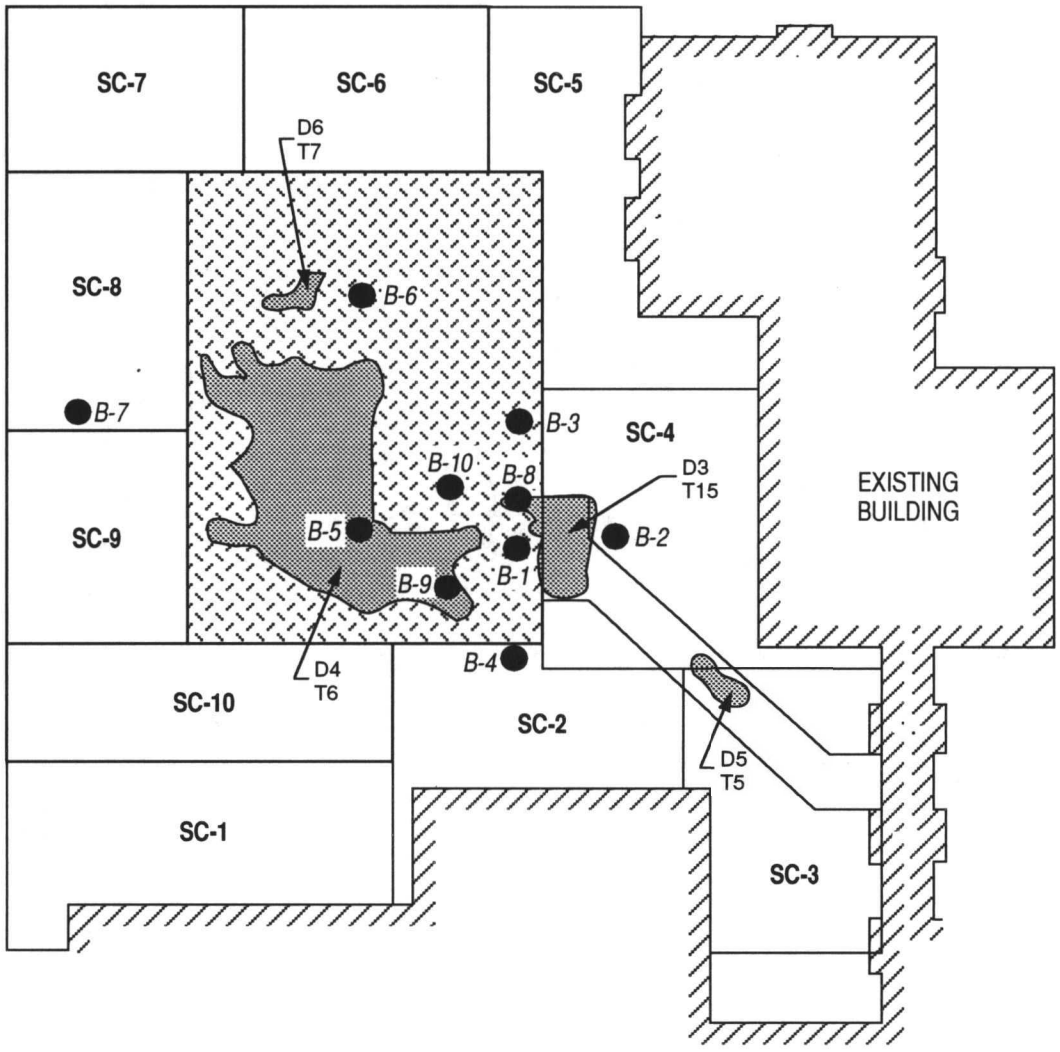


FIGURE DESCRIPTION: SITE MAP	WORK ASSIGNMENT NO. 53-7JZZ
SITE NAME/LOCATION HUBERT WHEELER STATE SCHOOL ST. LOUIS, MISSOURI	JACOBS PROJECT NO. 12-D253-80
JACOBS ENGINEERING GROUP INC.	ARCS
DRAWN BY: MD DATE: 03/15/95	FIGURE NO. 2
CHECKED BY: CH DATE: 03/15/95	

NOT TO SCALE

Source: MDNR, Site Inspection Report, 1994

D253-80-002



NOTE:

1. Plan adapted from field reconnaissance performed by a representative of Geothecnology, Inc. All site features are shown approximate only.

2. Surface sampling areas and boring locations were established in the field with reference to existing site features and are shown approximate only.

LEGEND

- SC-1 — Surface Sampling Area
- Boring Location
- D# / T# — Infrared Anomaly with Depth to Anomaly (D#) and Thickness of Anomaly (T#)
- Asphalt Play Area

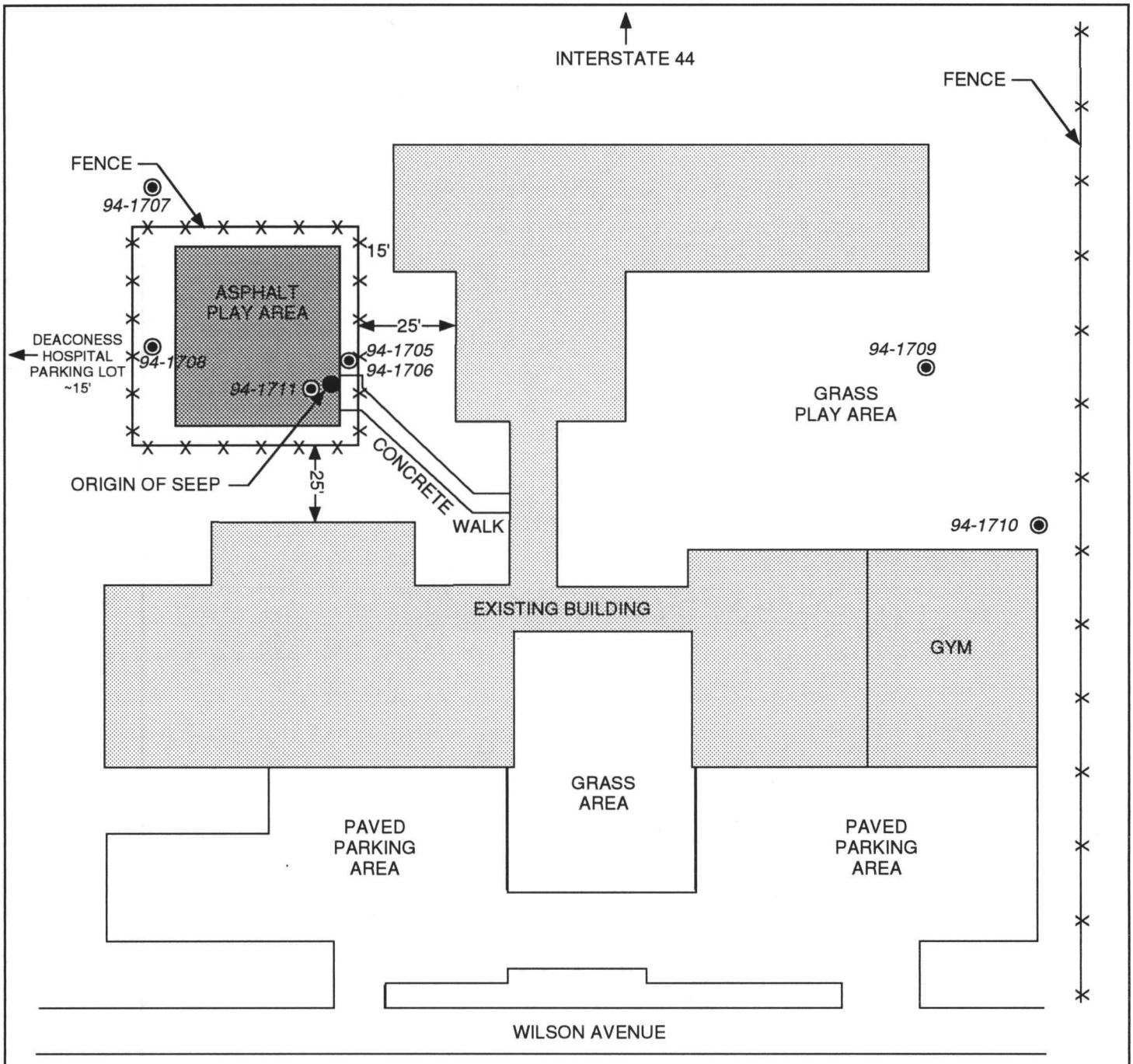
Source: Geotechnology, Inc., August 1994

0 30 60

Approximate Scale in Feet

FIGURE DESCRIPTION: GEOTECHNOLOGY, INC. SAMPLING LOCATIONS	WORK ASSIGNMENT NO. 53-7JZZ
SITE NAME/LOCATION HUBERT WHEELER STATE SCHOOL ST. LOUIS, MISSOURI	JACOBS PROJECT NO. 12-D253-80
JACOBS ENGINEERING GROUP INC.	ARCS
DRAWN BY: MD DATE: 02/20/95	FIGURE NO. 3
CHECKED BY: CH DATE: 02/20/95	

D253-80-003



LEGEND

◉ Sample Collection Point

94-XXXX Sample Collected at Location Indicated

NOT TO SCALE

Source: MDNR, Site Inspection Report, 1994

FIGURE DESCRIPTION: SAMPLING LOCATIONS OF THE 1994 MDNR SITE INSPECTION	WORK ASSIGNMENT NO. 53-7JZZ
SITE NAME/LOCATION HUBERT WHEELER STATE SCHOOL ST. LOUIS, MISSOURI	JACOBS PROJECT NO. 12-D253-80
JACOBS ENGINEERING GROUP INC.	ARCS
DRAWN BY: MD DATE: 03/15/95	FIGURE NO. 4
CHECKED BY: CH DATE: 03/15/95	

D253-80-002

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS OF SOIL BORING SAMPLES COLLECTED BY GEOTECHNOLOGY, INC.
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO0000093666
1993

		CONTAMINANTS									
Regulatory Levels		**Arsenic**	**Beryllium**	**Cadmium**	**Chromium**	**Copper**	**Lead (Total)**	**Lead (TCLP)***	**Mercury**	**Nickel**	**Selenium**
Reference Dose Screening Concentration		170	2,900	290	2,900	NL	NL	NL	170	12,000	2,900
Cancer Risk Screening Concentration		0.33	0.14	NL	NL	NL	NL	NL	NL	NL	NL
Geotechnology Sample Number	**Sample Depth (feet)**	**Arsenic**	**Beryllium**	**Cadmium**	**Chromium**	**Copper**	**Lead (Total)**	**Lead (TCLP)***	**Mercury**	**Nickel**	**Selenium**
B-1	3-7	4.33	0.525	0.830	14.9	17.6	192	NA	0.14	15.8	ND
B-2	8-10	7.97	0.620	0.907	18.9	29.4	139	NA	0.47	18.9	0.391
B-3	3-5	7.65	0.852	1.34	13.7	35.5	303	NA	0.25	17.9	0.635
B-4	6-8	7.95	0.646	0.581	21.0	13.3	40.7	NA	ND	16.8	ND
B-5	1-4	6.07	0.335	0.656	12.2	9.68	79.9	NA	0.26	10.9	ND
B-6	3-5	8.81	0.387	1.22	62.2	54.5	308	NA	0.63	13.8	0.332
B-7	6-8	8.97	0.693	0.713	18.6	15.3	14.5	NA	ND	19.8	ND
B-8	1-3	9.55	0.408	0.806	12.0	13.9	338	0.123	ND	11.6	0.520
B-9	7-9	6.93	0.565	0.865	13.2	20.2	115	NA	0.11	18.3	0.530
B-10	1-3	7.42	0.514	1.77	9.62	13.3	33.6	NA	0.39	13.7	ND

Note: * RCRA soil action regulatory limit of TCLP lead is 5 ppm
All concentrations reported in mg/kg
Shaded data represent concentrations greater than at least one of the listed regulatory levels
Sampe locations are shown in Figure 3
No background sample was collected at this time
ND - Not Detected
NA - Not Analyzed
NL - Not Listed

TABLE 1
SUMMARY OF ANALYTICAL RESULTS OF SOIL BORING SAMPLES COLLECTED BY GEOTECHNOLOGY, INC.
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO0000093666
1993

		CONTAMINANTS						
Regulatory Levels		**Silver**	**Zinc**	**Acenaphthene**	**Acenaphthylene**	**Anthracene**	**Benzo(a)anthracene**	**Benzo(a)pyrene**
Reference Dose Screening Concentration		2,900	170,000	35,000	NL	170,000	NL	NL
Cancer Risk Screening Concentration		NL	NL	NL	NL	NL	NL	0.08
Geotechnology Sample Number	**Sample Depth (feet)**	**Silver**	**Zinc**	**Acenaphthene**	**Acenaphthylene**	**Anthracene**	**Benzo(a)anthracene**	**Benzo(a)pyrene**
B-1	3-7	0.500	114	1.04	0.072	2.9	5.0	3.8
B-2	8-10	0.729	113	ND	ND	ND	0.13	0.048
B-3	3-5	ND	293	0.150	0.080	0.35	1.2	1.07
B-4	6-8	0.586	64.6	ND	ND	ND	ND	ND
B-5	1-4	ND	80.8	0.69	0.71	1.2	3.4	3.0
B-6	3-5	ND	232	ND	ND	7.2	14.0	13.0
B-7	6-8	ND	50.6	ND	ND	ND	ND	ND
B-8	1-3	ND	163	2.1	0.110	6.5	12.0	9.8
B-9	7-9	0.720	98.0	ND	ND	ND	ND	ND
B-10	1-3	0.986	44.5	8.2	1.4	16.0	45.0	41.0

Note: * RCRA soil action regulatory limit of TCLP lead is 5 ppm
All concentrations reported in mg/kg
Shaded data represent concentrations greater than at least one of the listed regulatory levels
Sampe locations are shown in Figure 3
No background sample was collected at this time
ND - Not Detected
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TABLE 1
SUMMARY OF ANALYTICAL RESULTS OF SOIL BORING SAMPLES COLLECTED BY GEOTECHNOLOGY, INC.
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO0000093666
1993

		CONTAMINANTS				
Regulatory Levels		**Benzo(b)fluoranthene**	**Benzo(ghi)perylene**	**Benzo(k)fluoranthene**	**Carbazole**	**Chrysene**
Reference Dose Screening Concentration		NL	NL	NL	NL	NL
Cancer Risk Screening Concentration		NL	NL	NL	NL	NL
Geotechnology Sample Number	**Sample Depth (feet)**	**Benzo(b)fluoranthene**	**Benzo(ghi)perylene**	**Benzo(k)fluoranthene**	**Carbazole**	**Chrysene**
B-1	3-7	5.3	1.6	1.7	1.4	4.2
B-2	8-10	0.20	0.077	0.074	ND	0.16
B-3	3-5	1.9	0.56	0.52	0.16	1.3
B-4	6-8	0.089	ND	ND	ND	0.056
B-5	1-4	5.2	1.4	0.45	0.82	3.3
B-6	3-5	16.0	5.1	7.0	ND	15.0
B-7	6-8	ND	ND	ND	ND	ND
B-8	1-3	14.0	4.3	4.6	3.0	12.0
B-9	7-9	ND	ND	ND	ND	ND
B-10	1-3	62.0	18.0	29.0	12.0	54.0

Note: * RCRA soil action regulatory limit of TCLP lead is 5 ppm
All concentrations reported in mg/kg
Shaded data represent concentrations greater than at least one of the listed regulatory levels
Sampe locations are shown in Figure 3
No background sample was collected at this time
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HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO0000093666
1993

		CONTAMINANTS				
Regulatory Levels		**Dibenz(a,h)anthracene**	**Dibenzofuran**	**Di-n-butylphthalate**	**Fluoranthene**	**Fluorene**
Reference Dose Screening Concentration		NL	NL	58,000	23,000	23,000
Cancer Risk Screening Concentration		NL	NL	NL	NL	NL
Geotechnology Sample Number	**Sample Depth (feet)**	**Dibenz(a,h)anthracene**	**Dibenzofuran**	**Di-n-butylphthalate**	**Fluoranthene**	**Fluorene**
B-1	3-7	0.46	0.610	0.17	13.0	1.3
B-2	8-10	ND	ND	0.15	0.31	ND
B-3	3-5	0.17	0.085	0.58	2.4	0.130
B-4	6-8	ND	ND	0.081	0.120	ND
B-5	1-4	0.42	0.44	ND	8.4	0.57
B-6	3-5	ND	ND	ND	36.0	ND
B-7	6-8	ND	ND	ND	ND	ND
B-8	1-3	1.4	1.2	0.068	28.0	2.3
B-9	7-9	ND	ND	ND	ND	ND
B-10	1-3	6.0	4.5	ND	104.0	6.7

Note: * RCRA soil action regulatory limit of TCLP lead is 5 ppm
All concentrations reported in mg/kg
Shaded data represent concentrations greater than at least one of the listed regulatory levels
Sampe locations are shown in Figure 3
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TABLE 1
SUMMARY OF ANALYTICAL RESULTS OF SOIL BORING SAMPLES COLLECTED BY GEOTECHNOLOGY, INC.
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO0000093666
1993

		CONTAMINANTS				
Regulatory Levels		**Indeno(1,2,3-cd)pyrene**	**2-Methylnaphthalene**	**Naphthalene**	**Phenanthrene**	**Pyrene**
Reference Dose Screening Concentration		NL	NL	NL	NL	17,000
Cancer Risk Screening Concentration		NL	NL	NL	NL	NL
Geotechnology Sample Number	**Sample Depth (feet)**	**Indeno(1,2,3-cd)pyrene**	**2-Methylnaphthalene**	**Naphthalene**	**Phenanthrene**	**Pyrene**
B-1	3-7	1.8	0.055	ND	12.0	8.6
B-2	8-10	0.082	ND	ND	0.32	0.28
B-3	3-5	0.57	ND	ND	1.8	2.5
B-4	6-8	ND	ND	0.26	0.120	0.106
B-5	1-4	1.4	0.160	ND	6.1	6.4
B-6	3-5	5.5	ND	ND	33.0	35.0
B-7	6-8	ND	ND	ND	ND	ND
B-8	1-3	4.7	0.15	0.16	23.0	20.0
B-9	7-9	ND	ND	ND	ND	ND
B-10	1-3	18.0	2.4	3.9	83.0	93.0

Note: * RCRA soil action regulatory limit of TCLP lead is 5 ppm
All concentrations reported in mg/kg
Shaded data represent concentrations greater than at least one of the listed regulatory levels
Sampe locations are shown in Figure 3
No background sample was collected at this time
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TABLE 2
SUMMARY OF ANALYTICAL RESULTS OF SURFACE SOIL SAMPLES
COLLECTED DURING THE MDNR SITE INSPECTION
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO00000093666
JULY 7, 1994

		CONTAMINANTS								
Regulatory Levels		**Arsenic**	**Barium**	**Cadmium**	**Chromium**	**Mercury**	**Lead**	**Selenium**	**Acenaphthene**	**Acenaphthylene**
Reference Dose Screening Concentration		170	41,000	290	2,900	170	NL	2,900	35,000	NL
Cancer Risk Screening Concentration		0.33	NL	NL	NL	NL	NL	NL	NL	NL
MDNR Sample Number	**Sample Location**	**Arsenic**	**Barium**	**Cadmium**	**Chromium**	**Mercury**	**Lead**	**Selenium**	**Acenaphthene**	**Acenaphthylene**
94-1705	Grab 0-1 foot depth; sample collected 7 feet north of concrete pad and 5 feet east of asphalt play area	11	77.8	1.22	12.2	0.123	65.7	0.586	ND (2.5)	ND (2.5)
94-1706	Duplicate of 94-1705	1.1	70	0.545	10.7	**0.149**	54.5	ND (0.5)	0.43	ND (0.25)
94-1707	Grab 0-1.5 foot depth; sample collected north of northwest fence post	5.19	108	1.24	15.8	ND (0.025)	60	ND (0.5)	ND (0.2)	ND (0.2)
94-1708	Grab 0-3 foot depth; sample collected 9 feet west of western edge of asphalt play area	10.1	125	1.44	19.1	0.041	92.8	ND (0.5)	0.31	ND (0.13)
94-1709 B	Grab 0-1 foot; sample collected from north end of grassy play area	8.68	96.2	1.05	17.6	0.049	59	0.53	ND (0.5)	ND (0.5)
94-1710	Grab 0-1 foot; sample collected 20 feet north of northeastern corner of school gymnasium	9.93	111	2.02	20.9	0.086	85.3	**2.28**	0.037 J	0.046 J
94-1711	Grab of tar-like substance	3.01	ND (10)	1.25	ND (2.5)	ND (0.025)	42.7	**1.993**	**7,200**	ND (400)

Note: All concentrations reported in mg/kg
Shaded data represent concentrations greater than at least one regulatory level
Bolded data are more than three times above "Background"
Locations are shown in Figure 4
The above metals were analyzed for total metals
B - Intended background sample.
J - Compound was detected below the quantitation limits. The detected concentration is estimated.
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TABLE 2
SUMMARY OF ANALYTICAL RESULTS OF SURFACE SOIL SAMPLES
COLLECTED DURING THE MDNR SITE INSPECTION
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO00000093666
JULY 7, 1994

		CONTAMINANTS					
Regulatory Levels		**Anthracene**	**Benzo(a)anthracene**	**Benzo(a)pyrene**	**Benzo(b)fluoranthene**	**Benzo(ghi)perylene**	**Benzo(k)fluoranthene**
Reference Dose Screening Concentration		170,000	NL	NL	NL	NL	NL
Cancer Risk Screening Concentration		NL	NL	0.08	NL	NL	NL
MDNR Sample Number	**Sample Location**	**Anthracene**	**Benzo(a)anthracene**	**Benzo(a)pyrene**	**Benzo(b)fluoranthene**	**Benzo(ghi)perylene**	**Benzo(k)fluoranthene**
94-1705	Grab 0-1 foot depth; sample collected 7 feet north of concrete pad and 5 feet east of asphalt play area	ND (2.5)	**2.7**	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
94-1706	Duplicate of 94-1705	**1.5**	**3.5**	ND (0.25)	**3.0**	ND (0.25)	**4.8**
94-1707	Grab 0-1.5 foot depth; sample collected north of northwest fence post	0.22	0.55	ND (0.2)	0.42	ND (0.2)	0.83
94-1708	Grab 0-3 foot depth; sample collected 9 feet west of western edge of asphalt play area	0.71	**1.1**	2	1.3	1	1.4
94-1709 B	Grab 0-1 foot; sample collected from north end of grassy play area	ND (0.5)	0.25 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
94-1710	Grab 0-1 foot; sample collected 20 feet north of northeastern corner of school gymnasium	0.13	0.57	0.56	0.53	ND (0.1)	0.83
94-1711	Grab of tar-like substance	**14,000**	**14,000**	32,000	**22,000**	**1,200**	**22,000**

Note: All concentrations reported in mg/kg
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Locations are shown in Figure 4
The above metals were analyzed for total metals
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TABLE 2
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COLLECTED DURING THE MDNR SITE INSPECTION
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO00000093666
JULY 7, 1994

		CONTAMINANTS						
Regulatory Levels		**Chrysene**	**Dibenz(a,h)anthracene**	**Dibenzofuran**	**Diethylphthalate**	**Fluoranthene**	**Fluorene**	**Indeno(1,2,3-cd)pyrene**
Reference Dose Screening Concentration		NL	NL	NL	470,000	23,000	23,000	NL
Cancer Risk Screening Concentration		NL	NL	NL	NL	NL	NL	NL
MDNR Sample Number	**Sample Location**	**Chrysene**	**Dibenz(a,h)anthracene**	**Dibenzofuran**	**Diethylphthalate**	**Fluoranthene**	**Fluorene**	**Indeno(1,2,3-cd)pyrene**
94-1705	Grab 0-1 foot depth; sample collected 7 feet north of concrete pad and 5 feet east of asphalt play area	**4.4**	ND (2.5)	ND (2.5)	ND (2.5)	**6.9**	ND (2.5)	ND (2.5)
94-1706	Duplicate of 94-1705	**4**	ND (0.25)	ND (0.25)	0.26	**9.3**	0.43	1.4
94-1707	Grab 0-1.5 foot depth; sample collected north of northwest fence post	0.76	ND (0.2)	ND (0.2)	ND (0.2)	1.4	ND (0.2)	ND (0.2)
94-1708	Grab 0-3 foot depth; sample collected 9 feet west of western edge of asphalt play area	**1.3**	0.47	0.128 J	NA	**4**	0.23	1.4
94-1709 B	Grab 0-1 foot; sample collected from north end of grassy play area	0.36 J	ND (0.5)	ND (0.5)	NA	0.65	ND (0.5)	ND (0.5)
94-1710	Grab 0-1 foot; sample collected 20 feet north of northeastern corner of school gymnasium	0.66	ND (0.1)	0.019 J	NA	1.2	0.03 J	ND (0.1)
94-1711	Grab of tar-like substance	**17,000**	**11,000**	**4,200**	NA	47,000	**7,300**	**20,000**

Note: All concentrations reported in mg/kg
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TABLE 2
SUMMARY OF ANALYTICAL RESULTS OF SURFACE SOIL SAMPLES
COLLECTED DURING THE MDNR SITE INSPECTION
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO000000093666
JULY 7, 1994

		CONTAMINANTS			
Regulatory Levels		**2-Methylnaphthalene**	**Naphthalene**	**Phenanthrene**	**Pyrene**
Reference Dose Screening Concentration		NL	NL	NL	17,000
Cancer Risk Screening Concentration		NL	NL	NL	NL
MDNR Sample Number	**Sample Location**	**2-Methylnaphthalene**	**Naphthalene**	**Phenanthrene**	**Pyrene**
94-1705	Grab 0-1 foot depth; sample collected 7 feet north of concrete pad and 5 feet east of asphalt play area	ND (2.5)	ND (2.5)	**4.7**	**7**
94-1706	Duplicate of 94-1705	ND (0.25)	ND (0.25)	**4.8**	**7.4**
94-1707	Grab 0-1.5 foot depth; sample collected north of northwest fence post	ND (0.2)	ND (0.2)	0.67	1.2
94-1708	Grab 0-3 foot depth; sample collected 9 feet west of western edge of asphalt play area	ND (0.13)	0.05 J	**2.5**	**3.2**
94-1709 B	Grab 0-1 foot; sample collected from north end of grassy play area	ND (0.5)	ND (0.5)	0.32 J	0.5
94-1710	Grab 0-1 foot; sample collected 20 feet north of northeastern corner of school gymnasium	ND (0.1)	ND (0.1)	0.5	1.2
94-1711	Grab of tar-like substance	**1,000**	**1,800**	**28,000**	28,000

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TABLE 3
SUMMARY OF ANALYTICAL RESULTS OF SURFACE SOIL SAMPLES
COLLECTED BY GEOTECHNOLOGY, INC.
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO00000093666
JULY 7, 1994

	CONTAMINANTS						
Regulatory Levels	**Lead**	**Acenaphthene**	**Acenaphthylene**	**Anthracene**	**Benzo(a)anthracene**	**Benzo(a)pyrene**	**Benzo(b)fluoranthene**
Reference Dose Screening Concentration	NL	35,000	NL	170,000	NL	NL	NL
Cancer Risk Screening Concentration	NL	NL	NL	NL	NL	0.08	NL
Geotechnology Sample Number	**Lead**	**Acenaphthene**	**Acenaphthylene**	**Anthracene**	**Benzo(a)anthracene**	**Benzo(a)pyrene**	**Benzo(b)fluoranthene**
SC-1	99.1	0.280	ND	0.950	2.6	2.2	2.4
SC-2	124	1.2	ND	3.0	5.6	4.8	4.9
SC-3	64.1	0.240	ND	0.650	1.4	1.30	1.3
SC-4	57.9	1.7	ND	4.0	7.1	6.0	6.5
SC-5	51.0	0.088	0.049	0.250	0.800	0.730	0.890
SC-6	48.1	ND	ND	0.580	1.4	1.2	1.2
SC-7	27.2	ND	ND	ND	0.550	0.540	0.590
SC-8	65.8	0.840	ND	1.5	3.1	2.8	3.1
SC-9	70.4	ND	ND	0.500	1.4	1.4	1.3
SC-10	117	0.630	0.200	2.2	5.2	4.9	6.0

Note: All concentrations reported in mg/kg
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COLLECTED BY GEOTECHNOLOGY, INC.
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO00000093666
JULY 7, 1994

	CONTAMINANTS				
Regulatory Levels	**Benzo(ghi)perylene**	**Benzo(k)fluoranthene**	**bis(2-Ethylhexyl)phthalate**	**Butylbenzylphthalate**	**Carbazole**
Reference Dose Screening Concentration	NL	NL	12,000	123,000	NL
Cancer Risk Screening Concentration	NL	NL	42	NL	NL
Geotechnology Sample Number	**Benzo(ghi)perylene**	**Benzo(k)fluoranthene**	**bis(2-Ethylhexyl)phthalate**	**Butylbenzylphthalate**	**Carbazole**
SC-1	1.3	1.3	1.0	ND	0.41
SC-2	2.4	3.6	0.3	ND	1.6
SC-3	0.610	0.980	0.380	0.091	0.280
SC-4	2.5	3.4	0.360	ND	2.2
SC-5	0.340	0.550	0.340	ND	0.120
SC-6	0.930	1.1	0.340	ND	0.260
SC-7	0.410	0.400	ND	ND	ND
SC-8	2.0	2.0	0.470	ND	0.750
SC-9	1.030	1.2	0.300	ND	0.250
SC-10	1.9	4.7	0.390	ND	1.09

Note: All concentrations reported in mg/kg
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TABLE 3
SUMMARY OF ANALYTICAL RESULTS OF SURFACE SOIL SAMPLES
COLLECTED BY GEOTECHNOLOGY, INC.
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO00000093666
JULY 7, 1994

	CONTAMINANTS					
Regulatory Levels	**Chrysene**	**Dibenz(a,h)anthracene**	**Dibenzofuran**	**Di-n-butylphthalate**	**Fluoranthene**	**Fluorene**
Reference Dose Screening Concentration	NL	NL	NL	58,000	23,000	23,000
Cancer Risk Screening Concentration	NL	NL	NL	NL	NL	NL
Geotechnology Sample Number	**Chrysene**	**Dibenz(a,h)anthracene**	**Dibenzofuran**	**Di-n-butylphthalate**	**Fluoranthene**	**Fluorene**
SC-1	2.7	0.380	ND	0.220	5.5	0.270
SC-2	5.5	1.05	0.590	0.21	12.0	1.3
SC-3	1.5	0.230	0.130	0.260	3.0	0.240
SC-4	7.2	1.2	0.870	0.250	15.0	1.9
SC-5	0.850	0.099	0.040	0.240	1.6	0.076
SC-6	1.5	0.240	ND	0.400	3.7	ND
SC-7	0.640	ND	ND	0.780	1.4	ND
SC-8	3.4	0.510	0.390	0.490	7.2	0.760
SC-9	1.6	0.260	ND	0.460	3.4	ND
SC-10	5.9	0.780	0.410	0.260	11.0	0.550

Note: All concentrations reported in mg/kg
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TABLE 3
SUMMARY OF ANALYTICAL RESULTS OF SURFACE SOIL SAMPLES
COLLECTED BY GEOTECHNOLOGY, INC.
HUBERT WHEELER STATE SCHOOL SITE
ST. LOUIS, MISSOURI
CERCLIS NO. MO00000093666
JULY 7, 1994

	CONTAMINANTS				
Regulatory Levels	**Indeno(1,2,3-cd)pyrene**	**2-Methylnaphthalene**	**Naphthalene**	**Phenanthrene**	**Pyrene**
Reference Dose Screening Concentration	NL	NL	NL	NL	17,000
Cancer Risk Screening Concentration	NL	NL	NL	NL	NL
Geotechnology Sample Number	**Indeno(1,2,3-cd)pyrene**	**2-Methylnaphthalene**	**Naphthalene**	**Phenanthrene**	**Pyrene**
SC-1	1.4	ND	ND	3.6	4.8
SC-2	2.8	ND	ND	10.3	10.5
SC-3	0.70	0.039	ND	2.6	2.7
SC-4	3.1	ND	0.20	13.3	13.0
SC-5	0.380	ND	ND	1.030	1.5
SC-6	0.950	ND	ND	2.6	2.8
SC-7	0.410	ND	ND	0.810	1.2
SC-8	2.1	ND	ND	6.1	5.9
SC-9	1.07	ND	ND	2.2	2.9
SC-10	2.3	ND	ND	8.3	10.7

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